Supporting Information

E-Cigarette Flavoring Chemicals Induce Cytotoxicity in HepG2 Cells

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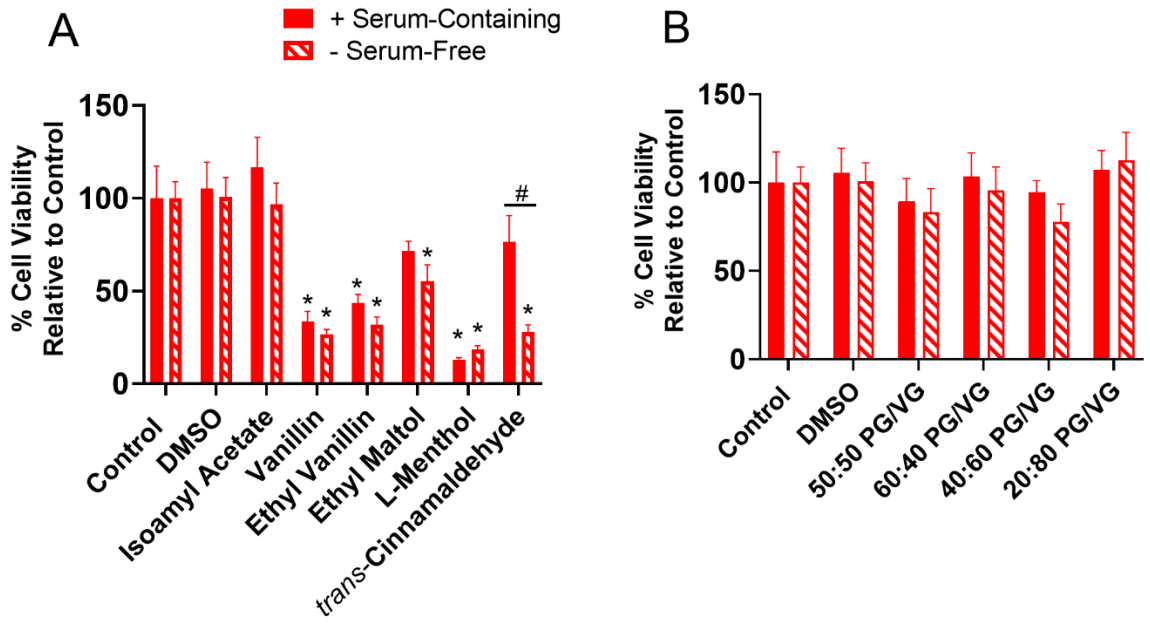

Figure S1. Cytotoxicity of E-Cigarette Chemicals after 30-Min Repeated Exposure. A) Effects of flavoring chemicals (67.3 µM isoamyl acetate, 5 mM vanillin, 5 mM ethyl vanillin, 5 mM ethyl maltol, 5 mM L-menthol, and 79.4 µM *trans*-cinnamaldehyde) on HepG2 cells after repeated exposure. **B)** Effects of propylene glycol and vegetable glycerin (PG/VG) mixtures (50:50, 60:40, 40:60, 20:80) on HepG2 cells after repeated exposure. HepG2 cells were exposed to each flavoring chemical or PG/VG mixture in serum-containing (+) or serum-free (-) media every 30 min for 5 h, followed by incubation with each flavoring chemical or PG/VG mixture for 43 h (total exposure time = 48 h). Results are shown as mean±SD (n=3 individual experiments in triplicate in media ± serum). Significance between control and each chemical or PG/VG mixture ± serum is denoted by * ($P < 0.05$), and significance between + serum and – serum for each chemical or PG/VG mixture is denoted by # ($P < 0.05$) determined by a two-way ANOVA followed by Tukey's multiple comparisons test for correction.

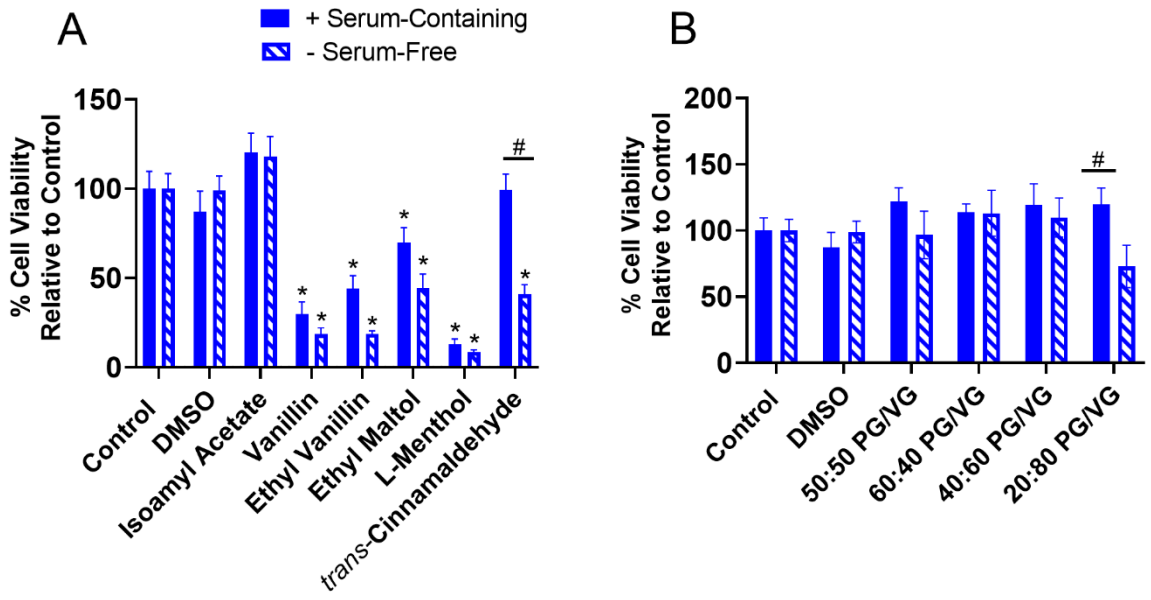

Figure S2. Cytotoxicity of E-Cigarette Chemicals after 90-Min Repeated Exposure. A) Effects of flavoring chemicals (67.3 µM isoamyl acetate, 5 mM vanillin, 5 mM ethyl vanillin, 5 mM ethyl maltol, 5 mM L-menthol, and 79.4 µM *trans*-cinnamaldehyde) on HepG2 cells after repeated exposure. **B)** Effects of propylene glycol and vegetable glycerin (PG/VG) mixtures (50:50, 60:40, 40:60, 20:80) on HepG2 cells after repeated exposure. HepG2 cells were exposed to each flavoring chemical or PG/VG mixture in serum-containing (+) or serum-free (-) media every 90 min for 5 h, followed by incubation with each flavoring chemical or PG/VG mixture for 43 h (total exposure time = 48 h). Results are shown as mean±SD (n=3 individual experiments in triplicate in media ± serum). Significance between control and each chemical or PG/VG mixture ± serum is denoted by * ($P < 0.05$), and significance between + serum and – serum for each chemical or PG/VG mixture is denoted by # ($P < 0.05$) determined by a two-way ANOVA followed by Tukey's multiple comparisons test for correction.